

Materials Data Sheet

Unalloyed Titanium for Implants

ASTM F67-06 UNS R50250, UNS R50400, UNS R50550, UNS R50700

Chemical Composition

wt %		Grade 1	Grade 2	Grade 3	Grade 4
		UNS R50250	UNS R50400	UNS R50550	UNS R50700
Nitrogen	max.	0,030	0,030	0,050	0,050
Carbon	max.	0,080	0,080	0,080	0,080
Hydrogen	max.	0,015	0,015	0,015	0,015
Iron	max.	0,200	0,300	0,300	0,500
Oxygen	max	0,180	0,250	0,350	0,400
Titanium		balance	balance	balance	balance

Physical Properties

Melting Point	1668°C
Density	4,5 g/cm ³
Modulus of Elasticity	105 GPa

Mechanical Properties

Annealed	Grade 1	Grade 2	Grade 3	Grade 4
Ultimate Tensile Strength	240 MPa	345 MPa	450 MPa	550 MPa
Yield Strength R _{p0,2}	170 MPa	275 MPa	380 MPa	483 MPa
Fracture Elongation	24 %	20 %	18 %	15 %

Note

The mechanical Properties are only for orientation and can be changed if necessary.